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(71)Applicant : NEC CORP

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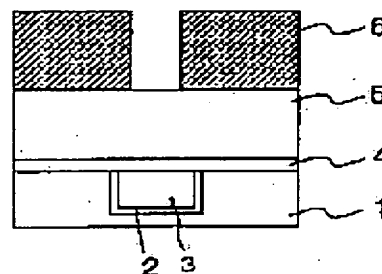
(54) PRODUCTION OF SEMICONDUCTOR DEVICE

(57)Abstract:

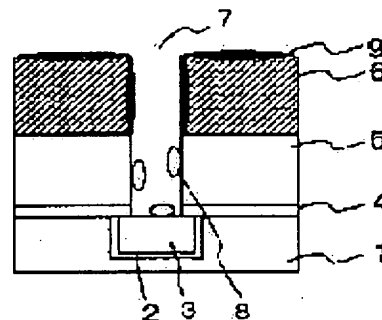
PROBLEM TO BE SOLVED: To remove a resist film and a surface hardened layer of the resist produced when easily oxidizable films such as copper wiring and a low dielectric constant film are formed and dry etching for exposing these films is carried out without damaging the easily oxidizable films.

SOLUTION: An HSQ film 5 and a silicon nitride film 4 are dry-etched using a resist film 6 as a mask until the silicon nitride film 4 is exposed to form a through hole 7. Hydrogen/nitrogen plasma treatment is then carried out to vary the shape and properties of a surface hardened layer 9 of the resist, and the resist film 6, the surface hardened layer 9 of the resist and residue 8 on etching are removed by wet-treatment with an amine removing solution.

(a)



(b)



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